EA Number: EA-NV-056-2005-257
EA-AZ-110-2005-0046

Serial/Case File #: NVN-79757 (Nevada)
AZA-33047 (Arizona)

Applicant:

The City of Mesquite

Proposed Actions Title/Type:

Short-term rights-of-way for the City of Mesquite's Post-Flood Actions and 2005 Runoff Season Flood Control Measures, Virgin River, Clark County, Nevada and Mohave County, Arizona.

Location of Proposed Actions:

The legal description for the proposed action is as follows:

Mount Diablo Meridian, Nevada
T. 13 S., R. 71 E.,
Sec. 15, S1/2S1/2,
Sec. 16, S1/2S1/2,
Sec. 20, N1/2,
Sec. 21, NW1/4NW1/4.*

Gila and Salt River Meridian, Arizona
T. 39 N., R. 16 W.,
Sec. 3, NE1/4SW1/4,
Sec. 4, S1/2S1/2,
Sec. 5, lot 6, S1/2SE1/4,
Sec. 8, lot 1, N1/2NE1/4,
Sec. 9, N1/2NW1/4.*

*Legal descriptions as depicted in attached maps attached hereto and made a part thereof.

1.0 INTRODUCTION

The January 2005 flood event was of such a large magnitude that it significantly altered the existing conditions of the Virgin River and the associated flood plain located in portions of Nevada and Arizona. Essentially, a new set of physical and biological conditions occurred with the post flood environment. Large areas of vegetation were removed by the high flow event. The vegetation community will likely go through additional changes because of the floods. Additionally, major changes to the physical characteristics of the Virgin River channel occurred. The distribution and abundance of fish species were affected as well. Further modifications to physical and biological conditions will likely occur. Additional high-flow events appear imminent during the remainder of the 2005 runoff season. As such, it is important to incorporate this perspective of the existing environment when considering the potential effects of the 2005 flood-control measures undertaken and/or being proposed by the City of Mesquite, Nevada.

1.1 PURPOSE AND NEED FOR PROPOSED ACTION

The purpose of the proposed action is to evaluate the completed flood control facilities constructed on an emergency basis and to determine potential impacts of proposed interim flood control measures. The proposed action is needed because the flood event, which occurred during the period of January 11-13, 2005, caused extensive damage in the City of Mesquite to private property, residences, and City facilities.

The magnitude of that flood event is still under review by the U.S. Geological Survey, it is however estimated that it carried flows at or above 36,000 cubic feet per second (cfs) based on measurements from the Littlefield Arizona gauging station (pers. com. Jon Wilson, USGS, pers. comm. 2005). The highest natural flow event on record for that station is 35,200 cfs measured on December 6, 1966, (http://waterdata.usgs.gov/nv). The intensity of the flow event interrupted the collection of river flow data at the Littlefield Arizona gauging station. This site is a primary location for monitoring flows in the Virgin River above the City.

The potential for additional flood events during the 2005 spring runoff season is high due to an above average snow pack in the Virgin River Basin. The NRCS estimates a forecast, as of February 11, 2005, that indicates snow-pack in the Virgin River Basin greater than 150 percent (their highest category) of the average (http://www.wcc.nrcs.usda.gov).

1.2 EXISTING NEPA DOCUMENTATION

The following documents are referenced for site specific and cumulative analysis pertaining to construction and air quality impacts, terms and conditions, and stipulations:

Las Vegas RMP EIS, ROD signed October 5, 1998

Arizona Strip District RMP EIS, ROD signed January 1992 and amended ROD signed January 1994
Mojave Desert Amendment, ROD signed April 6, 1998

Final Biological Opinion and Conference for the City of Mesquite's Post Flood Actions and the 2005 Runoff Season Flood Control Measures (1-5-05-F-457)

Biological Evaluation dated March 25, 2005

1.3 CONFORMANCE WITH APPLICABLE LAND USE PLANS

This proposed action is in conformance with the Las Vegas Resource Management Plan, approved on October 5, 1998. The plan has been reviewed and it is determined the proposed action conforms with land use plan decision ***(RW-1 and RW-1-h)*** under the authority of the Federal Land Policy and Management Act of October 21, 1976 (FLPMA), as amended (43 U.S.C. 1761 et.seq.)

The proposed action has been reviewed for conformance with the Arizona Strip District, Resource Management Plan, as amended. The proposed action is in conformance with the RMP. Decision LR16 provides for the evaluation of land use authorizations on a case-by-case basis in accordance with RMP decisions and National Environmental Policy Act analysis.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 NO ACTION ALTERNATIVE

Under this alternative there would be no-action on behalf of the Bureau of Land Management (BLM) to authorize these rights-of-way, which would result in the previously completed and interim flood control measures not being authorized. All or many of the facilities, previously constructed as emergency measures, could then be considered to be in trespass and would potentially need to be removed. This would result in the City of Mesquite having inadequate flood control facilities to protect human lives and property during flooding events. As there is good reason to believe that the 2005 spring runoff season has high potential for creating such a situation, there could be immediate impacts as a result of no-action on this project.

In addition, there is potential danger to human lives, as well as loss of property, and unpredictable resource damage and loss associated with choosing this Alternative. The danger to human health could be directly resulting from flood waters during flood events or indirectly through health issues resulting from standing or pooling waters. Standing and pooling waters can cause sanitation issues as well as hosting vectors for diseases, including mosquitoes which may be carrying the West Nile Virus. Damage to private as well as public property, and potential for resource loss, could result if another similar flooding event occurs without flood control measures being authorized and implemented.

2.2 PROPOSED ACTION/ PREFERRED ALTERNATIVE

Under this alternative, previously completed and interim flood control activities which were addressed in the Final Biological Opinion and located on lands managed by BLM would be authorized as short-term right-of-way grants, with an expiration date of June 1, 2008 and an option to renew.

2.2.1 ACTIONS PREVIOUSLY COMPLETED AS EMERGENCY MEASURES

The City took immediate actions along the Virgin River corridor to prevent and repair damage from the January flood event, as well as to prevent additional damage from subsequent flooding during the 2005 runoff season. A summary of these City-completed actions follows (see attached maps for locations):

- January 10, 2005 – coordinated flood prevention measures, including sandbagging efforts, installation of temporary barricade walls, and building small earthen dikes within City streets and rights-of-way with imported fill. These actions were directed towards the easterly ends of Mesquite Boulevard and Old Mill Road, where high water levels threatened three subdivisions.

- January 11, 2005 – continued implementation of flood prevention measures, including sandbagging and water diversion actions, such as trenching, on City or private property. In spite of these efforts, 52 homes located in or near Jack Hardy Estates, Morning Star, and Old Mill Meadows subdivisions received damage.

- January 12, 2005 – placed fill materials (i.e., gravel, rock, rip-rap including concrete chunks, chain-linked fence, etc.) at several eroding areas along the north easterly side of the Virgin River adjacent to the floodplain including the Middle School.

- January 15-16, 2005 – commenced diversion work in the Virgin River channel to redirect river flows. A long-reach backhoe and single mud-cat were used for additional flood control measures, but efforts ceased quickly due to equipment problems and saturated soil within the Virgin River.

- January 17, 2005 – reinitiated efforts to alter the direction of river flows away from vulnerable areas. Work began by creating a pilot channel from south of the Middle School towards the Bunkerville Irrigation District Diversion Dike by cutting through sandbars that formed during pre-flood conditions. This effort was designed to redirect flows into the pilot channel away from the eroding banks at the Middle School and to protect the City sewer line.

- January 18, 2005 – continued efforts to alter the direction of the Virgin River away from vulnerable areas. Work proceeded on the north side of the Bunkerville Irrigation District Diversion Dike. A small dike was constructed to redirect the water back toward the diversion dike (or spillway area) to reduce the velocity of downstream flows, and to assist with re-routing flows into the constructed pilot channel. In concert, flood control measures (i.e., trenching and channelization) were initiated downstream of the Middle School to divert river flows away from the outfall of Abbott Wash where erosion threatened the City sewage treatment ponds. Work commenced at or near the Bunkerville Bridge and proceeded in an upstream or easterly direction. Once the channel work was completed, a dike was constructed across the Virgin River to redirect the water into the channel and away from the oxbow.

- January 22, 2005 – continued flood control efforts further upstream of the Bunkerville Bridge. Work involved trenching between the upstream and downstream ends of a series of oxbows to create a straight channel to redirect flows away from Hafen Lane, Mesquite Boulevard, and Old Mill Road. Fill materials were also placed in eroding areas south of Dairy Lane to reestablish the channel on the south side.

- January 31, 2005 – rebuilt a temporary levee that was constructed on the north side of the Bunkerville Irrigation District Diversion Dike to redirect flows into the pilot channel. The Bunkerville Irrigation District Diversion Dike was breached on January 27, 2005, due to high flows from storm events on January 26, 2005.

- February 3, 2005 – connected the upstream end of the pilot channel (near Nevada-Arizona state line) to the main channel of the Virgin River.

- February 14, 2005 – constructed a secondary dike below the Bunkerville Irrigation District Diversion Dike to protect the bank near the Middle School and the City's sewer line, since previous flood-control measures had been compromised by high flows and were threatened by forecasted storm events.

- March 3, 2005 – coordinated efforts with private land owners in Arizona to restore lost upland areas where the newly formed bifurcated channel was located (on Hafen Property) and to move the upper end of the bifurcation dike (located above the ordinary high water mark on private property) to the north on the Hughes Property.

The following provides a summary of completed measures by the type of activity (versus chronological summary as noted above) and quantified data is provided, where possible:

- Bank stabilization – approximately 850 linear feet of riverbank was stabilized for erosion protection. Fill materials used for bank stabilization activities included rip-rap (i.e., concrete blocks), chain-linked fencing, and rock and gravel.

- Vegetation removal – "grubbing" or the "stripping off" of vegetative material from within the floodplain. This activity was focused on vegetative material and debris that became uprooted and accumulated in the channel from the high flow event. Additionally, as much as 30 acres of previously undisturbed vegetation (vegetation that had not been altered by the January 11-13 flood event) were removed to enhance water flow within the river channel and to accommodate pilot channel construction. Based on low aerial photographs taken January 14, 2005, by the City, it is estimated that more than 30 acres of habitat were stripped of vegetation by the high flows from the January 11-13 flood event itself.

- Dike construction – a series of dikes, in the range of approximately 7,300 ft in length, were constructed either adjacent to or across the Virgin River to divert river flows away from City-determined vulnerable areas.

- Pilot channel – a series of pilot channels, in the range of 9,300 ft in length, were constructed to divert river flows away from City-determined vulnerable areas.

2.2.2 PROPOSED INTERIM FLOOD CONTROL MEASURES

The City proposes to undertake a set of interim flood control measures to reduce the high potential of incurring additional flood damage during the 2005 spring runoff (Figures 1 and 2). These actions may be considered temporary, but the City believes they are prudent at this time. The actions outlined below are constrained by the amount of time, equipment, and funding available before the 2005 spring runoff commences. The proposed actions are presented in order of priority to facilitate scheduling and allocation of resources.

Action 1 – Reinforce the Existing Push Up Dike along the North Side of the Virgin River, Downstream of the Scenic Bridge within Arizona (or Bifurcation Dike)

The intent of this action is to work on the north stream bank above the high waterline. This action proposes to import approximately 10,000 cubic yards of gravel and pit-run rock and dump it on the bifurcation dike which would become incorporated with the silt, sand and gravel in the existing dike. In addition, the existing silt/sand dike paralleling the north side of the Virgin River would be pushed back, away from the Virgin River, approximately 150 feet. The dike would be about 2,500 feet long and 50 to 60 feet wide at its base. The purpose of this action is simply to construct a more erosion-resistant temporary dike.

The Bifurcation Dike would be accessed from the north side of the Virgin River across private and BLM administered property (coordinates: N1/2NW1/4, Sec 9; lot 1, N1/2NE1/4, Sec 8; lot 6, S1/2SE1/4, Sec 5; S1/2S1/2, Sec 4; NE1/4SW1/4, Sec 3; T39N, R16W Gila & Salt River Meridian). A shallow trench 5 feet wide and 3 feet deep (or keyway) would be excavated along the streamside toe of the dike and filled with rip-rap. If a source of rip-rap rock can be found, it would be placed in the keyway along the outside toe of the dike. The rip-rap would extend 3 to 4 feet above ground on the face of the dike. Void spaces would be filled with pit-run rock (6 or 8 inches ±). The goal is to construct a more erosion-resistant hard toe on the temporary dike. This dike would be the City's primary upstream protection from 2005 snow melt and thunderstorm floodwaters. It is anticipated that three or four cats, three loaders and an excavator, potentially with a thumb, would be required to construct the dike. It is also expected that approximately two weeks would be required to construct the dike once rock is on-site.

Action 2 – Remove Debris Piles from Main Channel

Action 3 – Provide Unobstructed Conveyance for Flood Water under the Bunkerville Bridge Located on State Road 170 (on Riverside Road in the City of Mesquite)

The City proposes to coordinate with Nevada Department of Transportation (NDOT) regarding the removal of woody debris and sentiment from the upstream face of the bridge piers to ensure that an unobstructed route for flood water exists under the south portion of the bridge span. It is expected that the remainder of the 2005 run-off would reshape the channel. The purpose of this action is to deal with the woody debris, trash piled against the bridge piers, and the large amounts of sediment within and upstream of the bridge spans that originated from prior flood waters. The activity would be restricted to an area 300 feet wide and 1,200 to 1,500 feet up river of the bridge. Additionally, the depth of the excavation would be restricted to material above the water surface elevation at the time of the activity. It is anticipated that excavated material would be placed on the current center bar in the channel. Removing the debris and sediment would provide more conveyance area under the bridge and lower water surface elevations. This action would provide the greatest amount of additional protection for the City's wastewater treatment facility and the adjacent Abbott Wash outfall structure. Channel work could be accomplished in about three days with a large excavator and one or two cats. No aquatic or terrestrial impacts, beyond those which have already occurred during the flood events, are anticipated as a result of implementing this action item.

It should be noted that the push-up dike constructed by the Coyote Willows golf course downstream (west-southwest) of the Mesquite Bridge has a high potential for failure when subjected to flood waters because it is constructed of silt. The potential for failure is so high that providing unobstructed conveyance for floodwater under the Bunkerville Bridge has little influence on the push-up dike's overall performance. High water since early February has already caused this dike to fail and the debris and sediment has yet to be cleaned from upstream of the bridge. Repair work is also needed at the City's wastewater treatment plant and Abbott Wash but will be addressed under the Long-term Flood Control Measures and Restoration Implementation Plan.

Action 4 – Armor the Upstream Face of the Bunkerville Irrigation District Diversion Dike

The Bunkerville Irrigation Diversion Dike is just upstream of the Middle School. The diversion dike spans the valley bottom with an over flow weir located near the south end. To date, the Bunkerville Irrigation Diversion Dam has been reconstructed using brush and floodplain soils. The fill currently placed over the sewer line, and the addition of any new fill, has a much better chance of protecting the sewer line and Middle School property. A stable Bunkerville Irrigation Diversion Dike has a much greater potential of directing flood waters downstream along the south side of the River. If the north end of the dike fails, flood waters will flow downstream along the north Virgin River bank directly impacting the Middle School property. Under this action, it is proposed that the upstream face of the north dike would be covered with erosion resistant material. Large gravel or small boulders (3 to 12 inch material) will be placed on about 75 percent of the length of the upstream face as measured from the north end of the dike. The south end of the upstream face of the dike would be protected with 3 to 5 ton rock placed in a graveled and backfilled keyway (or shallow trench) along the upstream toe of the dike. Above the keyway, large rock with its void spaces filled with the same 3 to 12 inch material used on the north end of the dike would blanket the upstream face of the south 25 percent of the dike. Willow cuttings (or wattles) could be placed on the upstream face of the dike in advance of placing the large rock, if the plant material is stockpiled on site by interested parties in advance of commencing on-site rock placement.

Pit run material would likely come from a private quarry site in Utah. Once materials are on-site, rock placement is expected to require at least a week. The narrow top width of the dike may require the need to deliver materials by front loader from a staging area located north of the north end of the dike. Only a large excavator, with thumb and front loader for large rock placement and a loader and small cat for gravel-boulder armor placement, would be able to safely and efficiently operate at this site. Disturbances to aquatic or terrestrial habitats are not expected to increase beyond the February 8th conditions. After placing the large rock along the south end of the north dike, if possible, all existing debris and spoils will be moved away from the overflow weir or spillway to reduce the potential of entraining other floating debris. Even a temporary debris jam has the potential to initiate channel avulsion or dike failure. The excess debris recommended for removal consists of woody debris, rooted tamarisk and silty sediment. Material removed from the bank channel would be piled on the floodplain's southerly margin or Bunkerville Irrigation Diversion Dike (north span). The cross-sectional area of the weir or spillway will be as unobstructed as can safely be provided given streamflow conditions at that time.

Action 5 – Place Additional Fill Over the Repaired Sewer Line Behind the Middle School

Under this action, approximately 15,000 cubic yards of gravel and pit-run rock-boulder fill would be placed on top of the existing fill as a precautionary measure to prevent further damage to the repaired 18-inch sewer line and additional loss of school land. Equipment would access the job site from Mesquite Boulevard by crossing the Middle School property. Pit-run material would be placed over the bank by a front loader and compacted in place by a cat. The timing and duration of on-site work would be coordinated with school administrations to provide a high degree of student safety and minimize classroom distraction. No disturbances of aquatic or terrestrial habitats are anticipated at this location because of the high extent of disturbance caused by the January flooding. Work should be accomplished within a week, if two loaders and one cat are available, materials are on-site, and shutdown for student safety is four (4) hours or less per day. If the waterline is too high to access the site, then the work would not be attempted.

Action 6 – Grade and Revegetate Area of Pilot Channel Disturbance

Vegetation clearing by the City during the construction of a pilot channel along the southern margin of the Virgin River floodplain upstream of the Bunkerville Irrigation Diversion Dike destroyed optimal habitat for the southwestern willow flycatcher. Under this action, the disturbed area would be graded without further disturbance to remnant optimal habitat and then planted with native willows and cottonwood. Grading would be done with a small cat and small excavator (or backhoe). Planting would be performed or supervised by experienced personnel using native plant materials and a backhoe. Planting would be completed during Phase I to take advantage of the current high soil moisture.

Action 7 – Pilot Channel Extension and Additional Structures

The upstream end of the pilot channel along the south margin of the floodplain upstream of the Bunkerville Diversion was connected to the main channel of the Virgin River on February 3, 2005. The purpose of this pilot channel was to provide a wider pathway for the river to develop a new main channel along the course of the pilot channel and to divert flows away from the north side of the flood plain to prevent further damage of structures along Hafen Lane. Anticipated 2005 spring runoff stream flows are expected to naturally widen the channel to approximately 300 feet, which will benefit the fish species. The pilot channel could be restored or further modified after spring runoff during the long-term river restoration and flood protection actions.

In addition, potential construction of an earth and brush diversion dike in the main river channel has been proposed to assist with directing river flow into the pilot channel. Site conditions, stream flow conditions, and equipment safety will be assessed to determine whether this diversion dike is constructed.

Action 8 – Stockpiling Imported Fill

Under this action, pit run gravel/cobble and small rock (12-inch ±) would be stockpiled at three locations in preparation for flood protection work during Phase I to reinforce embankments constructed of brush and flood plain materials. These imported materials are intended to reduce the erosion of earthen dikes that cannot be armored with vegetation in advance of the 2005 spring runoff. Although live stakes or willow wattles might be placed in the newly constructed dikes, they cannot develop a root system to reinforce the dikes prior to the 2005 spring runoff.

Stockpiling would occur near the east (upstream) end of the bifurcation dike in Arizona (10,000 cubic yards), north end of the Bunkerville Irrigation Diversion Dike (7,500 cubic yards), and near the Middle School (15,000 cubic yards) in previously disturbed areas outside of the Virgin River and its floodplain. Materials would be obtained from and delivered to the stockpile sites by truck on previously existing roads.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The following critical elements are not present or would not be affected by the alternatives: Prime or Unique Farm Lands, Native American Religious Concerns, Hazardous or Solid Wastes, and Wilderness.

3.1 SURFACE WATER HYDROLOGY AND CHANNEL GEO-MORPHOLOGY

Pursuant to developing flood control measure recommendations to protect the City from potential flooding during the 2005 spring runoff, ENTRIX made a preliminary review of available data, reports, maps, and aerial photography that characterize the hydrology and geomorphology of the Virgin River. Reconnaissance field observations of channel conditions up and downstream from the City of Mesquite were conducted on February 1 and 2. Federal and state resource agency staff and other stakeholders participated in the field reconnaissance, which provided valuable insights to Virgin River conditions. In addition, several local long-term residents were interviewed who are knowledgeable about the history of flooding, land-use, and river conditions. These initial study activities were undertaken to help identify the most prudent emergency actions that should be undertaken by the City to reduce the potential risk of flooding during spring runoff.

The magnitude of flows, which occurred during the January floods near Mesquite, is under review by the USGS. Preliminary reports obtained from the USGS website indicate that flows were equal to a least a 100-year flood based on data at the Littlefield, Arizona gaging station. The USGS flood frequency curve indicates that a 100-year flow is approximately 35,000 cfs (Hilmes and Vaill 1997). However, the Littlefield gaging station apparently malfunctioned during the flood, so that the true peak discharge has not yet been determined. An accurate accounting of the peak January flood flows will be an important issue for understanding the appropriate long-term restoration actions needed to reduce the risk of future flooding.

The Virgin River under present-day conditions is best described as a low-gradient, moderate-to-shallow entrenched channel in a wide alluvial river valley. The channel bed materials are sand –dominated, although gravels and cobbles underlie the sandy bed. The low-flow channel is relatively narrow and highly sinuous. At bankfull (which is approximately 3,500 cfs and corresponds with the 1.5-year flow frequency) and higher flows, however, the river has a much different character. At these higher flows, the river is considerably wider, occupying nearly all of the floodplain (which can be over 1,000 feet wide), has a high width-to-depth ratio, and follows a comparatively straight course down the valley. The floodplain and many channel bars are densely vegetated, mostly by tamarisk (which is an invasive, non-native plant species).

At this time, the initial hypothesis is that the dense tamarisk on the floodplain may have modified the channel over time by stabilizing floodplain sediments. The dense vegetation may also contribute to aggradation (deposition of sands and silts) on the floodplain over time, or possibly in cyclical periods of aggradation and scour depending upon the magnitude and sequencing of flood events. The tamarisk tends to decrease flow velocities, stabilize banks and bars, and generates woody debris in the river during floods, all of which tends to cause sediments to deposit on the floodplain.

Spot floodplain measurements of sediment deposition during the February field reconnaissance indicate that there has been as much as 1-foot of sediment deposition. Over time, increased aggradation of the floodplain will increase the water surface elevations for a given magnitude of a flood event. The sinuous low-flow channel (thalweg) is stable during periods when flood events are low-to-moderate. However, during higher flood events the low-flow channel is overwhelmed and even obliterated. Tamarisk is locally scoured from parts of the floodplain following a flood, and the natural form of the river, which appears to be a wide, shallow, and relatively straight but braided channel form with no clearly defined thalweg is re-established. When tamarisk re-colonizes the floodplain, the sinuous low-flow channel is re-formed.

3.2 RIPIARIAN HABITAT AND VEGETATION

3.2.1 VEGETATION

In general, native vegetation is prevalent in the Mesquite and Bunkerville area where irrigation return flows re-enter the Virgin River via irrigation ditches or sheet flow from agricultural fields. This provides nearly year round saturation for native vegetation to flourish in these areas and in areas away from the main channel. The riparian corridor, prior to the January 2005 flood event and subsequent actions by the City within the action area, was a mixture of native and introduced (i.e., exotic) riparian trees and shrubs. The riparian vegetation was comprised of *Tamarix ramosissima* (tamarisk) monocultures; tamarisk interspersed with native species including *Salix goodingii* (Gooding's willow), *Salix exigua* (coyote willow), *Pluchea sericea* (arrowweed), *Baccharis* spp. (seepwillow), and *Populus fremontii* (Fremont cottonwood); and small patches of native species including willows and cottonwoods (SNWA 2001). The willows occurred more along the active portions of the floodplain, such as on the bars and banks, while the tamarisk-dominated monocultures occurred on the areas less frequently flooded.

The willow-dominated and tree-dominated (cottonwood and/or Gooding's black willow) patches have an upper canopy and developed understory, providing high structural diversity for wildlife. In contrast, the tamarisk-dominated and mixed shrub patches tend to have limited understory development and upper canopy, minimizing the structural diversity of the habitat. Patches dominated by Gooding's black willow and Fremont cottonwood are important habitat for many wildlife species (SNWA 2001).

Tamarisk is an exotic shrub species, listed as a noxious weed by the Nevada Department of Agriculture (Nevada Weed Action Committee 2000). It is a phreatophyte (dependent on groundwater) with numerous life-history strategies that enable it to out-compete native riparian vegetation, such as cottonwoods and willows. These adaptations include numerous seeds that are released over a prolonged period of time, high initial growth rates, vegetative reproduction, and ability to survive under drought, saline, and anoxic (oxygen deprived) conditions. Seedling moisture requirements are less than those of native riparian shrub species. In addition, tamarisk is a dry and brittle shrub with highly flammable leaf litter, which makes it prone to fires. The dense tamarisk canopy limits the regeneration success of native species, such as willows and cottonwoods, which require open, sunny, recently-deposited alluvium and sufficient water to establish by reducing the erodibility of the banks and bars and creation of bare patches and limiting light availability.

Within the action area, coverage by tamarisk along the Virgin River has greatly increased since the 1950s, replacing native species (documented in historical aerial photographs, Hilmes and Vaill 1997). The dominance of tamarisk has altered the riparian community within the floodplain and on the channel bars from scattered patches to a dense canopy that covers the entire bar and extends from the active channel to the valley walls.

Historically, the Virgin River has been a dynamic and shifting river with high velocities that carried high sediment loads. Historic descriptions and photographs suggest that the channel was wide, shallow, and braided in some reaches, shifting the main channel position during high flows. However, the shift in vegetation density and dominant species has in part reduced the dynamism of the channel within the zone of disturbance. Other activities on the floodplain, such as agriculture, diversions, rip-rap, channelization, and actions to protect sewage treatment ponds and property, have also reduced channel-floodplain connectivity within the zone of disturbance. Channel narrowing has also occurred, which is particularly evident in historical aerial photographs at the major bridge crossings over the past 50 years (Hilmes and Vaill 1997).

Despite an increase in channel stability, as a result of the vegetation and reduced floodplain-channel connectivity, avulsions continue to happen, as occurred during the January 2005 flood event, changing the flow position and direction. Historic photograph comparisons indicate that channel position changes have occurred following large events downstream of Scenic Bridge in Arizona and within the vicinity of Bunkerville Diversion (e.g. late-1960s, early 1970s, mid-1980s, and early-1990s). Large expanses of tamarisk and native vegetation are only removed during channel avulsions. Tamarisk readily re-vegetates any newly created bare areas.

The emergency flood control measures completed by the City and those proposed for completion during the 2005 runoff season (e.g., Action 2) have the potential to affect the floodplain vegetation. Flood control measures already undertaken include the clearing of floodplain vegetation, construction of dikes downstream of the Scenic Bridge in Arizona and near the Bunkerville Diversion, and dredging a pilot channel for the purpose of directing flows of the Virgin River away from the City. Activities that are proposed for the 2005 runoff season that may alter current vegetation include the potential removal of two acres of vegetation near Lewis Bottom Wash for access to the Virgin River floodplain to remove debris piles that are currently located within the channel. The potential effects to existing vegetation include: 1) possible removal of native and non-native floodplain species, 2) possible change in fluvial geomorphic processes, and 3) possible change in depth to groundwater (water availability). A more thorough analysis of the fluvial dynamics of the river, depth to groundwater, annual fluctuations of the water table, and surface flows, is needed to determine with more certainty the effects of the proposed short-term flood control activities on the long-term sustainability of the riparian vegetation. However, none of the proposed short-term actions could be reversed if the more detailed analyses indicate a potential detrimental affect to the native riparian species and avian habitat.

The dominant vegetation affected by the previous and proposed measures is tamarisk. However, willows and cottonwoods were removed for the construction of the pilot channel near the Bunkerville Diversion Dam. The mechanical removal of tamarisk by bulldozing that has already occurred may provide an opportunity and the first-step for re-establishing native species within these areas. Impacts to riparian vegetation are addressed in Action 5 and in Section 4.0 (Mitigation Measures).

3.2.2 NOXIOUS AND INVASIVE WEEDS

The Federal Noxious Weed Act, Public Law 93-629 (7 U.S.C. 2801 et seq.; 88 Stat. 2148), enacted January 3, 1975, established a Federal program to control the spread of noxious weeds. Executive Order 13112 issued February 3, 1999 further defines the responsibilities of Federal Agencies to prevent the introduction of invasive species and provide for their control by minimizing the economic, ecological and human health impacts that invasive species cause. The issuance of a right-of-way grant for this project requires the proponent to comply with the Executive Order 13112 and prevent the spread or introduction of invasive species and noxious weeds.

3.3 CULTURAL AND HISTORIC RESOURCES

Section 106 of the National Historic Preservation Act (NHPA) requires Federal agencies to take into account the effects of their undertakings on historic properties. For the purposes of Section 106, historic properties are limited to those that are listed in or eligible for listing in the National Register of Historic Places (NRHP). Efforts to identify and evaluate cultural resource properties for this project were conducted by the BLM Archeologist according to 36 CFR 800.4. The results of the existing data review demonstrated that there is minimal potential for the presence of eligible cultural resources within the Area of Potential Effect (APE). Most of the proposed undertaking is located within the floodplain of the Virgin River. Due to the disturbed nature of the APE, the probability of finding intact cultural properties is negligible; therefore the proposed undertaking is determined exempt from Section 106 review as per Section VII.A.2 of our State Protocol Agreement with the Nevada State Historic Preservation Office (SHPO). Action Area 8 has been inventoried previously with negative findings (refer to BLM report 5-192). The Bunkerville Bridge is an historic-period resource that was mitigated previously (refer to BLM report 5-1028). Terraces above the floodplain are extremely sensitive for prehistoric cultural resources, however, no surface disturbing activity is proposed on these terraces. Sufficient efforts have been taken to determine that no historic properties will be affected; no further evaluation is necessary.

3.4 MIGRATORY BIRDS

Under the Migratory Bird Treaty Act of 1918 and subsequent amendments (16 U.S.C. 703-711), it is unlawful to take, kill, or possess migratory birds. A list of those protected birds can be found in 50 C.F.R. 10.13. The issuance of rights-of-way grants for these projects requires the proponent to comply with the Migratory Bird Treaty Act and avoid potential impacts to those listed birds.

3.5 BIOLOGICAL RESOURCES

3.5.1 THREATENED AND ENDANGERED SPECIES

A Nevada BLM Biologist has reviewed the portion of the projects located within Nevada and conferred that the proposed actions may adversely affect the endangered and proposed critical habitat of the following three species: southwestern willow flycatcher (Empidonax traillii extimus), Virgin River chub (Gila seminuda), woundfin (Plagopterus argentussimus). The Yuma clapper rail (Rallus longirostris yumanensis) is an endangered species that is not likely to be adversely affected by these projects; further detail on that determination can be found within the Biological Opinion 1-5-05-F-457 for the proposed action (copies of the B.O. can be obtained from the Bureau of Land Management at either the Las Vegas Field or Arizona Strip Offices).

Similarly, a BLM Biologist from the Arizona Strip District has reviewed the portion of the emergency and proposed projects located within Arizona. The effects determinations made were the same as those for Nevada: southwestern willow flycatcher (Empidonax traillii extimus), Virgin River chub (Gila seminude), and woundfin minnow (Plagopterus argentussimus) are likely to be adversely affected by the proposed actions. The Yuma clapper rail (Rallus longirostris yumanensis) is not likely to be adversely affected by this project. The U.S. Fish and Wildlife Service concurred with the determination for Yuma clapper rail and concluded that the proposed actions was not likely to jeopardize the survival and recovery of southwestern willow flycatcher, Virgin River chub, and woundfin minnow in Biological Opinion 1-5-05-F-457. A summary of affects to these species is provided below.

Section 7 Consultation for these projects are covered under the Biological Opinion and Conference for the City of Mesquite's Post Flood Actions and the 2005 Runoff Season Flood Control Measures (1-5-05-F-457) and is contingent upon compliance with the terms and conditions of the Biological Opinion.

All associated activities for the proposed actions will occur within riparian area outside of desert tortoise habitat. Therefore these projects will have no affect on the threatened desert tortoise or any critical habitat designated for this species.

There is a portion of the project area, noted as "Part of Action Area 6", which is larger than the area represented on the maps cited by the Biological Opinion (1-5-05-F-457). This area is represented as a grubbed area that is approximately 100 by 500 feet (approximately 1.148 acres), the area being authorized is actually 225 feet by 750 feet (approximately 3.874 acres), as noted on the attached map labeled "Figure 1". The larger area is still covered in the Biological Opinion. As the document consistently states that, "Quantification of the amount of designated critical habitat altered by the City's previously completed flood control measures requires information and site-specific data that is not available at this time." Under this language, authorization of the larger area is allowable and covered within the Biological Opinion.

3.5.1.1 SUMMARY OF EFFECTS ON LISTED SPECIES

Southwestern willow flycatcher

The Service has determined that the level of effect to the southwestern willow flycatcher is adverse, but the effects are moderate because:

a) southwestern willow flycatchers were not or would not be present in the action area during implementation of the previously completed actions and proposed actions;

b) no known southwestern willow flycatcher nesting sites were or would be adversely affected by the previously completed actions and proposed actions; and

c) measures have been proposed by the City and Corps to avoid, substantially minimize, or compensate for the effects of the previously completed actions and proposed actions to the southwestern willow flycatcher and its habitat, these are listed in the mitigation and stipulations.

The constituent elements previously described are essential for the southwestern willow flycatcher to be considered not affected by the City's proposed interim flood control measures; however, the southwestern willow flycatcher was affected by the City's previously completed actions, including direct affects or alterations to:

a) dense riparian vegetation with thickets of trees and shrubs ranging in height from 6 to 98 feet with lower-stature thickets of 6–13 feet tall found at lower-elevation riparian forests; and

b) areas of dense riparian foliage at least from the ground level up to approximately 13 feet above ground or dense foliage only at the shrub level, or as a low, dense tree canopy. The amount of riparian vegetation directly affected by the City's actions is unknown at this time, but represents a limited amount of riparian vegetation within the proposed critical habitat for the entire Virgin River segment of the Virgin Management Unit and is not expected to significantly affect the function of the unit. The January 2005 flood event itself removed a significant amount of riparian vegetation in proposed critical habitat in the action area and vicinity.

It is important to note that none of the City's actions occurred within the vicinity of known southwestern willow flycatcher nesting habitat; thus, the two constituent elements for nesting for the species were not affected. The key nesting habitat in Nevada at the downstream end of the action area, generally remained intact post-flood. The post-flood status of the other breeding locations for the southwestern willow flycatcher in the Virgin River segment is unknown.

To date, there has been no scientific assessment of the adverse or beneficial effects of the flood event on the listed species or their habitats, including the southwestern willow flycatcher. Additionally, the new river channel and floodplain have not been mapped or analyzed since the flood event. Based on informal observations of the action area and vicinity, and observed effects of the flood event and observed and potential effects of the City's previously completed and proposed actions, sufficient amounts of riparian vegetation remain or would remain within the action area and vicinity to potentially provide for breeding, feeding, sheltering, and migration such that the metapopulation stability, gene flow of the subspecies, and connectivity between the Virgin River segment of the Virgin Management Unit and neighboring Management Units and Recovery Units continues. The Virgin River segment should continue to contribute habitat in order to help provide for the numerical and habitat-related goals identified in the Recovery Plan and proposed critical habitat designation.

Virgin River Chub and Woundfin

The Service has determined that the level of effect to the Virgin River chub and woundfin is adverse, but the effects are moderate:

a) no known spawning habitat for the Virgin River chub or woundfin would be affected by the proposed actions;
b) Virgin River chub or woundfin populations are generally very low; and
c) measures have been proposed by the City and Corps to avoid, substantially minimize, or compensate for the effects of the proposed actions on the Virgin River chub or woundfin, these measures are included in the mitigation and stipulations.

The constituent elements previously described that are essential for the Virgin River chub and woundfin were affected by the City's previously completed actions or would be affected by the City's proposed actions, including temporary affects or alterations to:

a) water quality (temporarily) for both species;

b) river channels, side channels, secondary channels, backwaters, springs, and other areas that provide access to these habitats for both species;

c) habitat for predatory or competitive nonnative species in native fish habitats or potential reestablishment sites for both species;

d) areas inhabited by adult and juveniles woundfin such as runs and pools adjacent to riffles that have sand and sand/gravel substrates; and;

e) areas inhabited by woundfin larvae such as shoreline margins and backwater habitats associated with filamentous algae.

In the final rule, it is noted that activities in the Virgin River basin that may adversely modify critical habitat include actions that reduce the volume and timing of water flows, destroy or eliminate access to spawning and nursery habitat, prevent recruitment, significantly impact food sources, contaminate the Virgin River, or significantly increase predation and competition by nonnative fishes (Service 2000). Based on the above statement, the City's previously completed and proposed actions did not or would not destroy or eliminate access to spawning and nursery habitat, prevent recruitment, nor contaminate the Virgin River, and therefore meet many of the necessary criteria for not adversely modifying critical habitat.

The City's previously completed and proposed actions affected or may affect critical habitat for both species in terms of temporarily disrupting the volume and timing of water flows, temporarily impacting food sources, and temporarily increasing predation and competition by nonnative fishes, but not significantly.

As stated previously, to date there has been no scientific assessment of the adverse or beneficial effects of the flood event on all the listed species or their habitats. Additionally, the new river channel and floodplain have not been mapped or analyzed since the flood event. High flows subsequent to the January 2005 flood event have continued to reshape the Virgin River and floodplain, including areas affected by the City's actions. The predicted high flows for the 2005 spring run-off will also continue to naturally reshape the Virgin River and floodplain. Based on informal observations of the action area and vicinity, and observed effects of the flood event and observed and potential effects of the City's previously completed and proposed actions, the function of the primary constituent elements or habitat qualities (water, physical habitat, and biological environment) essential to the conservation of the Virgin River chub and woundfin should continue to function and contribute to the goals identified in the Recovery Plan and in the critical habitat designation.

3.5.2 WILDLIFE

Wildlife species in the general area include small mammals, rodents, birds and reptiles. Most of these species are common and widespread in distribution. The Virgin River and associated riparian corridor serve as important habitat for other BLM sensitive, Multiple Species Habitat Conservation Plan (MSHCP) covered, and State protected avian and aquatic species. As with the federally listed birds and fish, most activities occurred prior to the breeding/nesting/spawning season for birds, and the flood event itself modified distribution of aquatic species. The effects of this action on BLM sensitive, State protected, and MSHCP covered species would be similar to those previously described for listed birds and fish. Effects to these species will be minimized through implementation of the mitigation measures and the terms and conditions of the biological opinion addressing the listed species.

3.6 AIR QUALITY

In general the impacts associated with air quality are anticipated to be minor, temporary and short term in nature. Increased emissions of PM_{10} would likely occur as a result of soil disturbance associated with vegetation removal, construction activities, and movement of construction equipment However, the use of water during construction activities and the subsequent application of acceptable soil stabilizing techniques would reduce the potential emissions.

A localized increase in emissions of CO would also likely occur from construction equipment utilized during construction. A short-term slight increase in CO emissions may be expected due to increased vehicle traffic during construction.

An LVFO air quality specialist has reviewed this action and determined that the proponent must ensure that valid dust control permits are obtained and permit conditions met for the duration of the project(s), regardless of whether the construction activity takes place inside or outside the PM10 non-attainment boundary. These are Clark County DAQEM rules and regulations and all associated information on the subject can be found on their website, including permit applications and the process for obtaining them.

3.7 ENVIRONMENTAL JUSTICE

According to Executive Order 12898 of February 11, 1994, all Federal actions must address and identify as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations in the United States. The subject action was evaluated and no disproportionately high or adverse human health or environmental effects were identified for minority or low-income populations.

3.8 WILD AND SCENIC RIVERS

That portion of the Virgin River in Arizona which borders on the proposed flood control activities is recommended as suitable for designation as a Wild and Scenic Rive with a potential classification of Recreational. The Arizona Strip District RMP says, "Potential actions that may affect Virgin River wild and scenic values would be subject to interim protection. Management activities would not be allowed to damage the existing eligibility, classification, or suitability. The free-flowing characteristics of the river segment cannot be modified. (WR03)." Until Congress acts to designate or release from further consideration rivers determined to be eligible and suitable through the previous RMP process and the subsequent Arizona Statewide Wild and Scenic Rivers LEIS, the following desired conditions have to be maintained: 1) Preservation of the stream's free-flowing nature. 2) Preservation, protection, and, to the greatest extent practicable, enhancement of identified outstandingly remarkable values. (WR03) In the case of this segment, those values are aquatic and riparian. 3) Preservation of characteristics that establish the potential classification of this segment as Recreational; several access points and noticeable human developments. This project, as proposed, is not expected to change the overall free-flowing nature or the characteristics that establish the potential classification for the larger river segment.

3.9 AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

The proposed activities are within the Virgin River Corridor ACEC designated in the 1992 Arizona Strip RMP to protect riparian, endangered fish, and scenic values. The ACEC encompasses 8,075 acres, including 29 miles of the Virgin River. The Virgin River and associated riparian area provides habitat for two federally listed fishes, the Virgin River chub and the woundfin minnow. In 1998, the objectives for the Virgin River Corridor ACEC were modified under the Mojave Amendment to include protection of a desert tortoise population. Impacts to riparian vegetation are addressed in Action 5 and in Section 4.0 (Mitigation Measures).

4.0 DESCRIPTION OF MITIGATION MEASURES AND RESIDUAL IMPACTS

1. Efforts shall be taken to minimize impacts to vegetation during all phases of activities within the right-of-way area. This may include pre-disturbance surveys to identify vegetation suitable for salvage and to ensure that protected or sensitive plant species are properly protected. Topsoil will be stockpiled and utilized in post construction reclamation efforts. Weed control measures will be utilized on all disturbed areas within the right-of-way area.

2. Efforts shall be taken to preserve surface and subsurface cultural and paleontological resources that may be encountered within the right-of-way area.

3. To mitigate the potential for adverse air and water quality impacts, all activities within the right-of-way area shall be in conformance with all applicable Federal and State air and water quality laws.

4. Efforts shall be taken to minimize impacts to wildlife during all phases of activities within the right-of-way area.

5. Should hazardous materials be spilled or deposited within the right-of-way area by the Holder, its agents or a third party, the Authorized Officer for the BLM Las Vegas Field Office shall be immediately notified. Any clean up or reporting requirements shall be completed in compliance with all applicable State and Federal laws and regulations.

6. The proponent must comply with the Migratory Bird Treaty Act and avoid potential impacts to protected birds within the project area. The following measures describe the most effective measures to avoid impacts:

    a. To prevent undue harm, habitat-altering projects or portions of projects should be scheduled outside bird breeding season. In riparian and higher elevation areas, breeding season generally occurs between March 1st – August 30th.

b. If a project that may alter any breeding habitat has to occur during the breeding season, then a qualified biologist must survey the area for nests prior to commencement of construction activities. This shall include burrowing and ground nesting species in addition to those nesting in vegetation. If any active nests (containing eggs or young) are found, an appropriately-sized buffer area must be avoided until the young birds fledge.

7. Efforts shall be taken to prevent the spread or introduction of invasive or noxious weed species.

5.0 RECOMMENDATION

It is recommended that a right-of-way 13,505 feet long and of varying widths, containing approximately 28.386 acres for flood control facilities to be granted to the City of Mesquite with an expiration date of June 1, 2008, with an option to renew across the above described land. The grant is made under the authority of Title V of the Federal Land Policy and Management Act of October 21, 1976 (FLPMA), as amended (43 U.S.C. 1761 et.seq.). The grant shall be subject to the terms and conditions in 43 CFR 2801, rental payment, if applicable, as determined by 43 CFR 2803.1-2. It shall also be subject to the standard stipulations applicable to this type of action and the special stipulations stated below.

5.1 RATIONALE

1. The proposed action is consistent with promoting the utilization of rights-of-way in common with respect to engineering and technological compatibility and land use plans (43 CFR 2800.2(c)).

2. The proposed action supports coordination with State and local governments, interested individuals and appropriate quasi-governmental entities (43 CFR 2800.2(d)).

3. No known Federal programs will be adversely affected by this proposed action even though the subject land is within the area defined by Public Law 105-263 (Southern Nevada Public Land Management Act of 1998) [and Public Law 96-586 (Santini-Burton Act)], which provides for the sale of public lands in the Las Vegas Valley. The Act[s] recognizes the need for orderly community development and infrastructure needs associated with development of both public and private lands. The requested right-of-way is necessary for the normal functioning of the community and therefore not in conflict with the Act[s].

4. The recommendation to issue a right-of-way on Federal lands meets the stated objective **RW-1** and **RW-1-h** identified in the Las Vegas Resource Management Plan approved on October 5, 1998. In addition, the recommendation to issue a right-of-way on Federal lands meets the stated objective LR 16 identified in the Arizona Strip District RMP EIS approved January 1992, as amended.

6.0 PERSONS/ AGENCIES CONSULTED

David Vincelette: Environmental Planner, City of Mesquite
Bill Tanner: City of Mesquite
Terry Marren: City of Mesquite
Bryan Montgomery: City of Mesquite
T. Scott Fisher: City of Mesquite
Robert D. Williams, Field Supervisor, U.S. Fish and Wildlife Service
Amy LaVoie: Deputy Assistant Field Supervisor, U.S. Fish and Wildlife Service
Cynthia Martinez: U.S. Fish and Wildlife Service
Helen Hankins: Interim Field Manager, Bureau of Land Management (LVFO)
Juan Palma: Field Manger, Bureau of Land Management (LVFO)
Robert Boyd: Hydrologist, Bureau of Land Management (LVFO)
Kristin Murphy: Wildlife Biologist, Bureau of Land Management (LVFO)
Susanne Rowe: Archeologist, Bureau of Land Management (LVFO)
Christina Lund: Threatened and Endangered Species Botanist. Bureau of Land Management (LVFO)
Adrian Garcia: Realty Specialist, Bureau of Land Management (LVFO)

Lisa Christianson: Air Quality Specialist, Bureau of Land Management (LVFO)
Anna Wharton: Supervisory Realty Specialist, Bureau of Land Management (LVFO)
Laurie Ford: Team Lead, Lands and Geological Sciences, Bureau of Land Management (ASFO)
Richard Spotts: Environmental Coordinator, Bureau of Land Management (ASFO)
Robert Smith: Soil, Water, Air, Bureau of Land Management (ASFO)
Michael Herder: Team Lead, Wildlife/SSS, Bureau of Land Management (ASFO)
Lee Hughes: Ecologist, Bureau of Land Management (ASFO)
Tom Folks: Team Lead, Recreation/Wilderness, Bureau of Land Management (ASFO)
John Herron: Archaeologist, Bureau of Land Management (ASFO)
Ray Klein: Park Ranger, National Park Service (GCPNM)
Gloria Benson: Native American Coordinator, Bureau of Land Management (ASFO)
Linda Price: Rangeland Manager/S&Gs, Bureau of Land Management (ASFO)
Robert Sandberg: Acting Field Manager, Bureau of Land Management (ASFO)
Ron Wadsworth: Lead Ranger, Bureau of Land Management (ASFO)
Becky Hammond: Monument Manager, Bureau of Land Management (VCNM)
LD Walker: State Weed Coordinator, Bureau of Land Management (ASFO)
Roger Taylor: Manager, Arizona Strip District, Bureau of Land Management (ASDO)
Louis Cole: Overton Power
Grady McNure: Army Corps of Engineers
Jon Sjoberg: Nevada Division of Wildlife
Gale Fraser: Clark County Regional Flood Control District
Betty Hollister: Clark County Regional Flood Control District
Carl Sheets: Clark County School District

Environmental Assessment Prepared By: _____
Beth Domowicz, Realty Specialist SCEP, LVFO

Environmental Assessment Reviewed By: _____
Shawna Woods, Acting Supervisory Realty Specialist, LVFO

Environmental Assessment Forwarded Thru: _____
Sharon DiPinto, Assistant Field Manager, LVFO

7.0 FINDING OF NO SIGNIFICANT IMPACT/DECISION RECORD MESQUITE SHORT-TERM RIGHTS-OF-WAY FOR FLOOD CONTROL MEASURES

DECISION:

It is my decision to authorize short-term rights-of-way for the actions previously completed and proposed interim actions to the City of Mesquite for flood control purposes and supporting facilities. I have determined that the proposed action with the mitigation measures described in the attached Environmental Assessment(EA), inclusive of stipulations labeled Exhibits "A" and "B", will not have any significant impacts on the human environment and that an Environmental Impact Statement (EIS) is not required.

FINDING OF NO SIGNIFICANT IMPACT:

I have reviewed the attached EA and its supporting materials. After careful consideration of the environmental effects as described in the EA, and incorporated herein, I have determined that the proposed action of authorization of these short-term right-of-ways on lands identified in the EA will not significantly affect the quality of the human environment and therefore an EIS is not required.

I have determined that the proposed action is in conformance with the approved Las Vegas Resource Management Plan, and the approved Arizona Strip District Resource Management Plan, and is consistent with the plans and policies of neighboring local, county, state, tribal, federal agencies, and governments. This finding and conclusion is based on my consideration of the Council on Environmental Quality's (CEQ) criteria for significance (40 CFR 1508.27), both with regard to the context and the intensity of impacts described in the EA.

CONTEXT:
The magnitude of the flood event on January 11-13, 2005, which is still under review by the U.S. Geological Survey, carried flows estimated at or above 36,000 cubic feet per second (cfs) measured at the Littlefield Arizona gauging station (pers. com. Jon Wilson, USGS, pers. comm. 2005). The highest natural flow event on record for that station is 35,200 cfs measured on December 6, 1966, (http://waterdata.usgs.gov/nv). The intensity of the flow event interrupted the collection of river flow data at the Littlefield Arizona gauging station. This site is a primary location for monitoring flows in the Virgin River above the City. The flood event caused extensive damage in the City to private property, residences, and City facilities.

The potential for additional flood events during the 2005 spring runoff season is high due to an above average snow pack in the Virgin River Basin. The NRCS estimates a forecast, as of February 11, 2005, that indicates snowpack in the Virgin River Basin greater than 150 percent (their highest category) of the average (http://www.wcc.nrcs.usda.gov).

INTENSITY:

1. *Impacts that may be both beneficial and adverse*
   The environmental assessment has considered both beneficial and adverse impacts of the authorization of these short-term right-of-ways. On the whole the authorization of these rights-of-way will result in better flood control protection for residents of the City of Mesquite. Better flood control protection will improve the economic and health outlook for the community. The adverse impacts associated with this action are the loss of resources and critical habitat.

2. *The degree to which the proposed action affects public health or safety*
   The proposed actions are directly related to benefits in both public health and safety. The proposed action would provide better flood prevention and preparedness in the area. Floods can cause immediate dangers for human health and safety, in that flood waters can cause injury and/or bodily harm. There could also be residual impacts as flood waters recede, leaving pools of standing water throughout the community. These pools can play host for many disease vectors (i.e. mosquitoes which could be carrying the West Nile Virus), as well as support other types of nuisance insect colonies (i.e. Aficanized bees) that may pose a danger to human health.

3. *Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farm lands, wetlands, wild and scenic rivers, or ecologically critical areas.*
   The proposed actions are directly related to flood events along the Virgin River. The facilities proposed will not present any significant impacts to the integrity of the waterway. Within close proximity to one of the project areas is a historical site, however, issues associated with the site are being addressed and mitigated for.

4. *The degree to which the effects on the quality of the human environment are likely to be highly controversial*
   The local community is highly supportive of the proposed facilities, as currently many of the residents are still suffering form the costs of property damages resulting form the last flood event. Mitigation required by the Biological Opinion includes participation by the City of Mesquite in creating a long-term flood plan, implementation of which will greatly improve the quality of the human environment in the Mesquite area. The Biological Opinion is also requiring the resource loss and damage, which has and will result from this action to be better quantified.

5. *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.*
   There are no highly uncertain, unique, or unknown risks from the proposed action. Coordination between all the agencies involved in this action have resulted in a collaborative solution and the forthcoming long-term flood control plan that will be developed will ensure that the resources and the community will be protected.

6. *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.*
   The proposed action does not establish a precedent for future actions, as BLM regularly authorizes right-of-way projects that affect threatened and endangered species. The Biological Opinion was issued contingent upon compliance with mitigation.

7. *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.*
   The proposed action is not related to any other current actions that have the potential to cause a cumulative impact. The City of Mesquite is going to develop a long-term plan for flood control in the region, but as yet there are no related additional activities which will be taking place. Upon development of the long-term flood control plan, Section 7 Consultation with the U.S. Fish and Wildlife Service will need to be reinitiated and resulting impacts will be assessed at that time.

8. *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the NRHP or may cause loss or destruction of significant scientific, cultural, or historic resources.*
   There were no sites in the project area that were eligible for nomination to the National Register of Historic Places. Therefore, the proposed action will not cause loss or destruction of any significant scientific, cultural, or historic resources.

9. *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the ESA of 1973.*
   A Nevada BLM Biologist has reviewed the portion of the project located within Nevada and conferred that the proposed action may adversely affect the endangered and proposed critical habitat of the following three species: Southwestern willow flycatcher (Empidonax traillii extimus), Virgin River chub (Gila seminude), Woundfin (Plagopterus argentussimus). The Yuma clapper rail (Rallus longirostris yumanensis) is an endangered species that is not likely to be adversely affected by this project; further detail on that determination can be found within Biological Opinion 1-5-05-F-457 for the proposed action.

   Section 7 Consultation for this project is covered under the Biological Opinion and Conference for the City of Mesquite's Post Flood Actions and the 2005 Runoff Season Flood Control Measures
   (1-5-05-F-457) is contingent upon compliance with the terms and conditions of the Biological Opinion.

10. *Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.*
    The proposed action will not violate or threaten to violate any Federal, State, or local law or requirement imposed for the protection of the environment.

RATIONALE FOR DECISION:
The decision to allow the proposed actions (short-term rights-of-way for flood control purposes) does not result in any undue or unnecessary environmental degradation and is in conformance with the Las Vegas Resource Management Plan, approved in October 1998, and the Arizona Strip District Resource Management Plan, approved January 1992 as amended.

_____ _____

Juan Palma, Field Manager
Las Vegas Field Office
Bureau of Land Management

Date

Exhibit "A"
Stipulations for NVN-79757 & AZA-33047

1. Land surface treatment for areas previously disturbed: Following excavation, trenches will be backfilled with the excavated soil. The soil will be distributed and contoured evenly over the surface of the disturbed area. The soil surface will be left rough to help reduce potential wind erosion.

2. Land surface treatment for areas previously undisturbed: Strip the top three to six inches of soil material with associated plant material over all surfaces to be disturbed by construction. Stockpile this material along the course of construction (inside the right-of-way area). At the conclusion, including trench backfilling and compaction, replace the stockpiled soil with plant debris uniformly back on the surface of the disturbed area.

3. A qualified restoration company should be used in implementing the restoration plan. BLM should be involved with selecting the plants and ensuring that native species are incorporated in the seed mix. Contact a BLM Botanist for approval.

4. The Holder shall be responsible for weed control on disturbed areas within the limits of the right-of-way area. The Holder is responsible for consultation with the Authorized Officer and/or local authorities for acceptable weed control methods within limits imposed in the grant stipulations.

5. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the Holder, or any person working on his behalf on public or Federal lands shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The Holder will be responsible for the cost of evaluation. Any decision regarding suitable mitigation measures will be made by the Authorized Officer after consulting with the Holder. Holder shall be responsible for the resultant mitigation costs.

6. Holder shall construct, maintain, operate and/or modify structures and facilities as directed by the Authorized Officer to protect and minimize adverse effects upon raptors and other wildlife.

7. Holder shall report wildlife fatalities, including raptor electrocutions that are discovered on or near project facilities.

8. Holder shall comply with all applicable local, state, and federal air, water, hazardous substance, solid waste, or other environmental laws and regulations, existing or hereafter enacted or promulgated. To the full extent permissible by law, the Holder agrees to indemnify and hold harmless, within the limits, if any, established by state law (as state law exists on the effective date of the right-of-way), the United States against any liability arising from the Holder's use or occupancy of the right-of way area, regardless of whether the Holder has actually developed or caused development to occur on the right-of-way area, from the time of the issuance of this right-of-way to the Holder, and during the term of this right-of-way. This agreement to indemnify and hold harmless the United States against any liability shall apply without regard to whether the liability is caused by the Holder, its agents, contractors, or third parties. If the liability is caused by third parties, the Holder will pursue legal remedies against such third parties as if the Holder were the fee owner of the right-of-way area.

   Notwithstanding any limits to the Holder's ability to indemnify and hold harmless the United States which may exist under state law, the Holder agrees to bear all responsibility (financial or other) for any and all liability or responsibility of any kind or nature assessed against the United States arising from the Holder's use or occupancy of the right-of way area regardless of whether the Holder has actually developed or caused development to occur on the right-of-way area from the time of the issuance of this right-of-way to the Holder and during the term of this right-of-way.

9. The Holder shall not violate applicable air standards or related facility siting standards established by or pursuant to applicable federal, state, or local laws or regulations. The Holder shall be responsible for dust abatement within the limits of the right-of-way area and is responsible for obtaining all necessary permits from appropriate authorities for acceptable dust abatement and control methods (e.g., water, chemicals). The Holder shall be solely responsible for all violations of any air quality permit, law or regulation, as a result of its action, inaction, use or occupancy of the right-of-way area.

   Notwithstanding whether a violation of any air quality permit, law or regulation results, the Holder will cooperate with the Authorized Officer in implementing and maintaining reasonable and appropriate dust control methods in conformance with law and appropriate to the circumstances at the sole cost of the Holder.

   Prior to relinquishment, abandonment, or termination of this right-of-way, the Holder shall apply reasonable and appropriate dust abatement and control measures to all disturbed areas. The abatement and measures shall be designed to be effective over the long-term (e.g., rock mulch or other means) and acceptable to the Authorized Officer.

10. No hazardous material, substance, or hazardous waste, (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, *et seq*., or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et seq*.) shall be used, produced, transported, released, disposed of, or stored within the right-of-way area at any time by the Holder. The Holder shall immediately report any release of hazardous substances (leaks, spills, etc.) caused by the Holder or third parties in excess of the reportable quantity as required by federal, state, or local laws and regulations. A copy of any report required or requested by any federal, state or local government agency as a result of a reportable release or spill of any hazardous substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved federal, state or local government agency.

    The Holder shall immediately notify the Authorized Officer of any release of hazardous substances, toxic substances, or hazardous waste on or near the right-of-way area potentially affecting the right-of-way area of which the Holder is aware.

    As required by law, Holder shall have responsibility for and shall take all action(s) necessary to fully remediate and address the hazardous substance(s) on or emanating from the right-of-way area.

11. The right-of-way area shall be maintained in a sanitary condition at all times. Waste materials at those sites shall be disposed of promptly at an approved waste disposal site. “Waste”, as used in this paragraph, shall mean all discarded matter of any kind.

12. Holder shall mark the exterior boundaries of the right-of-way area with stake and/or lath at 100 to 200 foot intervals. The intervals may be varied at the time of staking at the discretion of the Authorized Officer. The tops of the stakes and/or laths will be painted and the laths flagged in a distinctive color as determined by the Holder. Holder shall maintain all boundary stakes and/or laths in place until final cleanup and restoration is completed.

13. Holder shall conduct all activities associated with construction, operation, and termination of this right-of-way within its authorized limits.

14. Holder shall maintain the right-of-way in a safe, useable condition, as directed by the Authorized Officer. A regular maintenance program shall include, but is not limited to, soil stabilization.

15. Within 90 days of construction completion, the Holder shall provide the Authorized Officer (the Assistant Field Manager, Division of Lands) with data in a format compatible with the Bureau’s Arc-Info Geographic Information System to accurately locate and identify the right-of-way:

    Acceptable data formats are:

    - Corrected Global Positioning System files with sub-meter accuracy or better, in NAD 27 or NAD 83;

- An AUTOCAD dxf file;
- Or ARCInfo export files on a CD ROM, 100 mb ZIP disk or 1gb Jazz disk.

Data may be submitted in any of the following formats:

- ARCInfo export file;
- On a 3.5 inch floppy disk in compressed or uncompressed format. Compressed or ZIPed data must include a copy of the UNZIP.EXE file on the disk.

All data shall include metadata for each coverage, and conform to the Content Standards for Digital Geospatial Metadata Federal Geographic Data Committee standards. Contact Mr. Robert Taylor, GIS Coordinator at (702) 515-5051.

16. Holder shall protect all survey monuments found within the authorization area. Survey monuments include, but are not limited to, General Land Office and Bureau of Land Management Cadastral Survey Corners, reference corners, witness points, U.S. Coast and Geodetic Survey benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. If any of the above are to be disturbed during operations, the holder shall secure the services of a Professional Land Surveyor or Bureau cadastral surveyor to perpetuate the disturbed monuments and references using surveying procedures found in the Manual of Instructions for the Survey of the Public Lands of the United States and Nevada Revised Statutes, Chapter 329, Perpetuation of Corners. The holder shall record such survey in the appropriate county and send a copy to the authorized officer. If the Bureau cadastral surveyors or other Federal surveyors are used to restore the disturbed survey monuments, the holder shall be responsible for the survey cost.

17. Between the periods of March 1 through August 30, surveys for nests of migratory birds shall be completed prior to surface disturbance. This shall include burrowing and ground nesting species in addition to those nesting in vegetation. If any active nests (containing eggs or young) are found, an appropriately-sized buffer area must be avoided until the young birds fledge. **The Holder shall contact the BLM 10-days prior to surveys regarding qualifications of the biologist who will conduct the surveys and survey protocol.** If disturbance in Riparian or at higher elevations is required, Holder shall consult with the Authorized officer prior to proceeding. Please contact a BLM Biologist at (702) 515-5000 for guidance.

18. Use of pesticides shall comply with the applicable Federal and state laws. Pesticides shall be used only in accordance with their registered uses and within limitations imposed by the Secretary of the Interior. Prior to the use of pesticides, the Holder shall obtain from the Authorized Officer written approval of a plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of storage and disposal of containers and any other information deemed necessary by the Authorized Officer.

    The plan shall be submitted no later than December 1 of any calendar year that covers the proposed activities for the next fiscal year.

    Pesticides shall not be permanently stored on public lands authorized for use under this grant/permit.

19. Holder shall maintain copy of the authorization along with stipulations on construction site at all times.

20. The grant is issued subject to all valid existing rights.

21. Ingress and egress to the right-of-way area will be done using existing roadways and trails.

22. The holder must comply with the terms and conditions of the Final Biological Opinion and Conference for the City of Mesquite's Post Flood Actions and the 2005 and the 2005 Runoff Season Flood Control Measures (1-5-05-F-457).

Exhibit "B"
Biological Opinion Terms and Conditions NVN-79757 & AZA-33047

II. Effect of the Take

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the southwestern willow flycatcher, Virgin River chub or woundfin, or result in destruction or adverse modification of proposed or designated critical habitat.

III. Reasonable and Prudent Measures

The Service believes that the following reasonable and prudent measures are necessary and appropriate to avoid and minimize take of the southwestern willow flycatcher, Virgin River chub, and woundfin:

1. The City, Corps, and cooperating agencies shall implement measures to avoid or minimize harassment, harm, injury or kill of the southwestern willow flycatcher, Virgin River chub, and woundfin due to the proposed interim flood control measures.

2. The City, Corps, and cooperating agencies shall implement measures to avoid or minimize harm in the form of destruction of southwestern willow flycatcher, Virgin River chub, and woundfin habitat due to the proposed interim flood control measures.

3. The City, Corps, and cooperating agencies shall implement measures to compensate for and conserve the southwestern willow flycatcher, Virgin River chub, and woundfin as a result of loss of individual species in the form of kill and habitat in the form of harm and harassment from the previously completed and proposed interim flood control measures.

4. The Corps and cooperating agencies shall implement measures to ensure compliance with the reasonable and prudent measures, terms and conditions, reporting requirements, and reinitiation requirements in this biological opinion.

IV. Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the City, Corps, and cooperating agencies must fully comply with the following terms and conditions, which implement the reasonable and prudent measures described above.

1. To implement Reasonable and Prudent Measure Number 1, the City, Corps, and cooperating agencies shall fully execute the following measures to avoid or minimize harassment, injury, harm or kill of the southwestern willow flycatcher, Virgin River chub, and woundfin due to the proposed interim flood control measures:

    a) Exposed soil piles to be left in place for longer than 5 days will be surrounded with appropriate silt control structures (i.e., silt fencing) to prevent loose soil from being washed into the Virgin River during future storm or runoff events. Silt control structures will be implemented prior to storm or precipitation events that are projected to exceed a ½-inch of rainfall.

b) Debris, bark, rubbish, creosote-treated wood or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, resulting from project related activities, shall be prevented from contaminating the soil and/or entering the Virgin River, its floodplain or waters (e.g., ephemeral washes) with a hydrologic connection to the Virgin River. Any of these materials placed within or where they may directly or indirectly enter the Virgin River or its floodplain, by the Operator or any party working under contract, or with the permission of the Operator, shall be removed immediately.

c) The contractor shall not dump any litter or construction debris within the riparian or stream zone of the Virgin River. All such debris and waste shall be stockpiled in the equipment storage areas and properly disposed of at an appropriate off site location.

d) Hazardous materials associated with the proposed project will be limited to those substances typically associated with construction equipment, such as gasoline and diesel fuels, engine oil, and hydraulic fluids. To avoid adversely affecting the Virgin River chub, woundfin and their habitats, hazardous materials will be stored in staging areas located outside of the Virgin River floodplain. Refueling and lubrication will only be performed at equipment storage areas outside of the Virgin River floodplain, unless it the location is approved by the biological monitor and is at least 150 feet away from the Virgin River. Equipment will be inspected regularly. Secondary containment measures will be used beneath vehicles during fueling and storage.

e) To the maximum extent possible, the City will avoid entering the active channel of the Virgin River.

f) An FWS-approved biological monitor will be located on-site during implementation of project activities to oversee construction activities. The monitor will have the authority to direct the on-site project manager and contractors to use alternative measures that minimize impacts to vegetation and in-stream flows.

2. To implement Reasonable and Prudent Measure Number 2, the City, Corps, and cooperating agencies shall fully implement the following measures to avoid or minimize harm in the form of destruction of southwestern willow flycatcher, Virgin River chub, and woundfin habitat due to the proposed interim flood control measures:

a) The perimeter of the project sites shall be adequately flagged to prevent damage to adjacent habitat and vegetation.

b) Access to the project site(s) will occur via existing roads or areas devoid of vegetation. Existing access roads and/or previously disturbed areas outside the Virgin River floodplain will also be used for staging equipment, materials, etc., unless the biological monitor determines that high flood flows are not imminent and the staging can safely (equipment and materials not in danger of being flooding) occur on existing access roads and/or previously disturbed areas within the Virgin River floodplain.

c) Impacts to any vegetation, especially native vegetation, will be avoided to the maximum extent possible. All constructed or excavated slopes shall be included within a re-vegetation plan.

d) To minimize introduction of noxious weeds, all equipment will be high-pressure washed outside of the Virgin River floodplain and away from any area (e.g., ephemeral washes) with hydrologic connections to the Virgin River prior to arrival on-site.

e) To the maximum extent possible, the City will avoid entering the active channel of the Virgin River.

f) Construction equipment will not be stored where they could be washed into the Virgin River or where they will cover or affect aquatic or riparian vegetation in the Virgin River or its floodplain.

g) An FWS-approved biological monitor will be hired and located on-site during implementation of all project activities to oversee construction activities. The monitor will have the authority to direct the on-site project manager and contractors to use alternative measures that minimize impacts to vegetation and in-stream flows.

h) A FWS-approved biological monitor will be hired and located on-site during implementation of all project activities to ensure that non-permitted activities do not occur within the Virgin River corridor and that permitted activities are undertaken in a manner that avoids or minimizes disturbance to species habitats.

3. To implement Reasonable and Prudent Measure Number 3, the City, Corps, and cooperating agencies shall fully execute the following measure to compensate for and conserve the southwestern willow flycatcher, Virgin River chub, and woundfin as a result of loss of individual species in the form of kill and habitat in the form of harm and harassment from the previously completed and proposed interim flood control measures:

a) Re-establish native vegetation in 2005. The native vegetation areas in Nevada and Arizona that were disturbed by flood control measures previously completed and/or proposed will be planted with native willows and cottonwood. Grading will be done with a small cat and small excavator (or backhoe). Planting will be performed by experienced personnel using native plant materials and a backhoe. Planting will be completed as soon as possible to take advantage of the current high soil moisture.

b) Implement habitat restoration measures for the species prior to the spring 2006 runoff. The immediate habitat restoration actions for the species in the action area will be recommended by a group of technical experts led by the Service in coordination with the City, Corps, and cooperating agencies, and implemented by the City in conjunction with any flood control measures yet to be permitted and constructed prior to the spring 2006 runoff.

c) Develop a Long-term Flood Control Measures and Restoration Implementation Plan. The City will direct the development of a Long-term Flood Control Measures and Restoration Implementation Plan for the action area in coordination with the Service, Corps, cooperating agencies, and other interested parties. The measures identified in the Long-term Flood Control Measures and Restoration Implementation Plan are likely to be very different from those actions undertaken to address interim flood control protection in 2005 and 2006. Three fundamental issues/goals must be addressed under the Plan:

1. Reduce the risk of flooding;

- Reduce the potential for lateral and vertical channel instability and resulting erosion of streambanks in limited areas during high-flow events that can threaten homes, land, and infrastructure; and
- Restore natural fluvial processes and native vegetation to provide appropriate aquatic and riparian habitat

Funding for this plan is not yet determined. Specific and targeted objectives will be developed with the City in consultation with state and federal resource agencies as part of this planning effort. At this time, the initial concept is that these fundamental goals can best be achieved by first fully understanding the channel morphology, including the natural planform, pattern and dimensions of the Virgin River. The planning effort should include collection of data necessary to determine the nature and extent of floodplain aggradation, review of the technical data that was used to develop the existing FEMA flood maps, evaluation of how tamarisk and human modifications to the river system may be affecting the channel form and stability, and identification of the natural channel morphology. These are a few of the basic tasks that will be included in the long-term flood control measures and restoration planning effort.

Development of this plan will include the following components:

- Development of a conceptual framework. Outline conceptual framework through preliminary discussions with the resource agencies. Incorporate the long-term re-establishment and protection of native vegetation within the action area, including the pilot channel reach, the dikes downstream of the Scenic Bridge and near the Bunkerville Diversion, and near the downstream end of the Coyote Willows golf course.
- Develop a workplan for a Long-term Conservation Measures and Restoration Implementation Plan that incorporates flood control measures with river restoration concepts. The workplan would include a detailed break-out of the tasks involved and a cost estimate for developing a Flood Control Conservation Measures Implementation Plan. Development of the workplan would be an iterative process that includes input, review and modification through interaction with the resource agencies and interested parties. Specific strategies for tamarisk exclusion and native vegetation re-establishment will be developed.
- Draft the Long-term Flood Control Measures and Restoration Implementation Plan. The plan would: include a native-vegetation-restoration component; incorporate fluvial geomorphological concepts related to creating and maintaining habitats for native fish; include specific recommendations and 90 percent design plans, where needed, for implementing flood control measures and river restoration activities in the action area; and identify appropriate conservation measures (avoidance, minimization, and mitigation measures) and incorporate conservation biology concepts for listed species. The City anticipates that these measures could be included as part of the conservation measures outlined in the Virgin River Habitat Conservation Plan; however, this plan is yet to be developed and permitted by the Service under section 10(a)(1)(B) of the Act.
- The City could potentially implement the Long-term Flood Control Measures and Restoration Implementation Plan in coordination with the implementation of the Virgin River Habitat Conservation Plan, if agreed to and permitted by the Service under section 10(a)(1)(B) under the Act.

4. To implement Reasonable and Prudent Measure Number 4, the Corps and cooperating agencies shall fully implement the following measures to ensure compliance with the reasonable and prudent measures, terms and conditions, reporting requirements, and reinitiation requirements in this biological opinion:

a) All work shall be done in a manner consistent with the plans submitted to the Federal and state agencies involved.

b) A communication plan will be developed and implemented to ensure that the City appropriately informs interested resource agencies of future emergency flood control measures or other actions in the Virgin River and its floodplain.

c) An FWS-approved biological monitoring plan will be developed and implemented, particularly for re-vegetation purposes.

d) An FWS-approved biological monitor will be hired and located on-site during implementation of all project activities to oversee construction activities. The monitor will have the authority to direct the on-site project manager and contractors to use alternative measures that minimize impacts to vegetation and in-stream flows.

e) A FWS-approved biological monitor will be hired and located on-site during implementation of all project activities to ensure that non-permitted activities do not occur within the Virgin River corridor and that permitted activities are undertaken in a manner that avoids or minimizes disturbance to species habitats.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the project activities. If, during the course of the action, the level of incidental take or loss of habitat identified is exceeded, such incidental take and habitat loss represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The City, Corps and/or cooperating agencies must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

V. Reporting Requirements

After implementation of each proposed action or a group of proposed actions, a biological monitoring report(s) shall be submitted to the Service documenting how the City, Corps and cooperating agencies complied with the terms and conditions of this biological opinion.

Upon locating a dead or injured endangered or threatened species, initial notification must be made to the Service's Division of Law Enforcement in Las Vegas, Nevada at (702) 388-6380. The finder of a dead or injured endangered or threatened species has the responsibility to carry out instructions provided by the Service's Division of Law Enforcement to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed. All deaths and injuries of threatened and endangered species, whether associated with project activities or not, shall be summarized in the monitoring report.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

We recommend that the Corps and cooperating agencies:

1. Work within your regulatory jurisdictions and responsibilities to discourage permitting, approval, and/or funding of federal actions that would directly or indirectly allow development in the Virgin River floodplain.
2. Work within your regulatory jurisdictions and responsibilities to assist the City in approving or designating areas not appropriate for development within the Virgin River floodplain.
3. Seek funding for acquisition and protection of private lands and/or water rights within the Virgin River floodplain.
4. Do not consider land exchanges or disposals out of federal ownership within the Virgin River riparian area, floodplain (high and low terraces), and watershed. Any exchanges that could affect water flows (either groundwater or surface water) should be carefully examined to ensure that future development on those lands would not affect surface flows, riparian habitat, or listed species in the Virgin River.

REINITIATION

This concludes formal consultation on the actions outlined in your request dated March 30, 2005. As required by 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over an action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.